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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,518	03/22/2004	Phillip R. Luge	10014908-5	2732

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

17

Office Action Summary	Application No. 10/806,518	Applicant(s) LUGUE ET AL.	
	Examiner Gail Verbitsky	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,12,15-17,21,23-27,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,12,15-17,21,23-27,30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 2 and 27 are objected to because of the following informalities: "a media feed path" in line 2 lacks antecedent basis.

Claim 27: it is not clear from the claim language how the heat capacity is calculated, based on the thermal energy radiated from the media, or based on a comparison.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-5, 15, 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Martin et al. (U.S. 6163662) [hereinafter Martin].

Martin discloses in Fig. 6 a device for identifying a media type in a media processing device comprising a thermal (IR) energy source (heater) 25, a thermal energy sensor 27. The heater 25 and the sensor 27 are arranged along a media feed path 32 so as to accommodate transfer of the thermal energy to the media 18 by the heater 25, diffusion of the thermal energy, and also sensing the diffused energy to determine a heat capacity of the media, the heat capacity is indicative of the type of the media (col. 1, lines 33-34, col. 6, lines 53-60, col. 7, lines 8-18).

As shown in Fig. 6, the heater 25 and the sensor 27 are oriented in a line parallel with the media feed path 18, the sensor 27 is being downstream from the heater 25 (col. 6, line 61, col. 7, line 2).

For claim 21: it is also shown in Fig. 6, that the device includes a shield/ housing disposed about the heater 25 so as to direct the thermal energy generated by the heater 25 toward the feed path, and a shield/ housing is disposed about the sensor 27 so as to direct the heat radiated from the feed path toward the sensor 27.

Although, martin teaches that the sensor 27 is a thermocouple, the heater 25 is a resistor, the drawings appear to illustrate non-contact heater and sensors.

For claim 15: the media-processing device is a printer (col. 3, lines 5-10).

For claim 30: Martin discloses a media processing device comprising media feed means configured to pass media downstream along a media feed path 32, a heating means 35 disposed along the feed path 32 for applying thermal energy to the media 18 passing downstream along the media feed path 32, temperature sensing means 27 disposed along the feed path 32 downstream the heater 25 for selectively sensing temperature of the media 18 passing downstream from the heater 25, a processor means 72 coupled with the temperature sensing means 27 for receiving an output representative of the sensed temperature, determining heat capacity of the media based on the temperature, the heat capacity indicative of the media type.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Karlsson (U.S. 6034360).

Martin discloses the device as stated above in paragraph 3.

Martin does not teach that the heater is an infrared heater, as stated in claims 6 and 16.

Karlsson teaches that it is very well known in the art to use a resistor as a heater in an infrared radiator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the heater, disclosed by martin, with the heater as taught by Karlsson, because both of them are alternate types of heating devices which will perform the same function, of heating the media of interest, if one is replaced with the other.

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Pompei (U.S. 6499877).

Martin discloses the device as stated above in paragraph 3.

Martin does not teach a reference means indicating ambient temperature so as the processor compares the ambient reference temperature and the measured temperature, as stated in claim 31.

Pompei teaches to measure a surface of interest temperature and an ambient (reference) temperature, wherein the actual temperature is based on the comparison of these two temperatures.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by martin, so as to use a reference temperature, as taught by Pompei, to compare to the sensed temperature, so as to provide an instant comparison with a reference, and allow instant correction (correcting factor), and thus, improving accuracy of the device.

7. Claims 7, 12, 17, 21, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Nakamura et al. (U.S. 5599104) [hereinafter Nakamura].

Martin discloses the device as stated above in paragraph 3.

Martin does not teach the limitations of claims 12 in combination with claims 7, 17, 21 and 27.

Nakamura teaches to compare an unknown sample (media) to a reference sample (media) by heating them and sensing the temperature of the media of interest and the reference media by thermocouples, the heat capacity of the media of interest can be found by comparison with the reference media (col. 7, formula 5), therefore, the unknown media of interest can be identified. A processor 16 is coupled to both temperature sensors to selectively identify the media based on the calculations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by Martin, so as to use a known behavior reference, as taught by Nakamura, and well known in the art, obtaining a heat capacity which is a known thermo physical property of the sample (media), in order to accurately describe behavior of the unknown media and thus, to identify it.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sensor, disclosed by Martin, with a thermocouple, as taught by Karlsson, because both of them are alternate types of temperature sensing devices which will perform the same function, of sensing the temperature of interest, if one is replaced with the other.

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin and Nakamura as applied to claims 7, 12, 17, 21, 27 above, and further in view of Cernusak et al. (U.S. 6389241) [hereinafter Cernusak].

Martin and Nakamura disclose the device as stated above in paragraph 7.

They do not explicitly teach the limitations of claim 25.

Cernusak teaches that it is very well known in the art to configure the processor of a media processing device to modify the parameters of the fusing subsystem, among which, the transport speed of the fusing subsystem, based on the measurements from sensors, i.e., media type sensors 405, in the media processing device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further configure the processor in the device disclosed

by Martin and Nakamura, so as to modify the toner fuser based on the media, as taught by Cernusak, in order to provide a proper response to the sensors, so as to prolong the life of the device and protect it from overheating related wear.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin and Nakamura, as applied to claims 7, 12, 17, 21, 27 above, and further in view of Karlsson

Martin and Nakamura disclose the device as stated above in paragraph 7.

They do not teach that the heater is an infrared heater, as stated in claim 16.

Karlsson teaches that it is very well known in the art to use a resistor as a heater in an infrared radiator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the heater, disclosed by Martin and Nakamura, with the heater as taught by Karlsson, because both of them are alternate types of heating devices which will perform the same function, of heating the media of interest, if one is replaced with the other.

10. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Weiss (U.S. 4887229).

Martin discloses the device as stated above in paragraph 3.

Martin does not explicitly teach the limitations of claims 23-24.

Weiss discloses in Fig. 6 a device comprising a chopper (keyed or switched shield) facing a temperature sensor for selectively interrupting heat radiation flow between a body (media) of interest and the sensor. Therefore, the heat radiation (temperature) detected by the sensor is in the waveform (pulsed), as shown in Fig. 2b. A data processor 29 is adapted to analyze the pulsed signal from the sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Martin, so as to have a shield/ chopper for selectively interrupting heat radiation from the body to the sensor, as taught by Weiss, in order to minimize signal-to-noise ratio, as already suggested by Weiss (entire col. 1), in order to improve accuracy of the device.

With respect to “whereby”/“thereby”, as stated in claim 23: it has been held that the functional “whereby” statement does not define any structure and accordingly cannot serve to distinguish. In re Mason, 114 USPQ 127, 44 CCPA 937 (1957).

11. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of JP 01242947A [hereinafter JP].

Martin discloses the device as stated above in paragraph 3.

Martin does not explicitly teach the limitations of claim 26.

JP teaches a device for determining a heat capacity of a sample by heating one surface (heated patch) of the sample, while another surface (unheated patch) is not heated. JP obtains temperature difference (rise) from heated and unheated patches and heat capacity is calculated (measured).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Martin, so as to heat one

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portion of the sample (media) and by obtaining temperature difference between the portions, determine heat capacity of the sample (media), as taught by JP, because the heat capacity is known to depend on temperature, on the other hand, it is a thermo physical parameter characterizing the sample property.

Conclusion

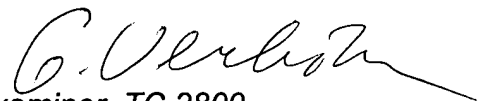
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

Any inquiry concerning this communication should be directed to the Examiner Verbitsky who can be reached at (571) 272-2253 Monday through Friday 8:00 to 4:00 ET.

GKV

Gail Verbitsky

Primary Patent Examiner, TC 2800



July 30, 2004